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EXAMINER

MANCHO, RONNIE M

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NOTIFICATION DATE

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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-6, 9-15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Amended claim 1 recites, “based on only the determination that the obtained road bank angle itself is greater than the predetermined value”. This is new matter. Applicant does show where the new limitation is disclosed in the specification. Applicant’s fig. 11 step 1125 show that Gy must be greater than Gyest and in addition that CANT must be greater than CANTref before starting a process for restraining a roll angle of a vehicle from increasing. CANT is understood to refer to applicant’s claimed “road bank angle”. Applicant’s specification nowhere recites onlythe obtained road bank angle. Applicant’s specification page 26 last section confirms that applicant requires at least two conditions to be satisfied before starting a process for restraining a roll angle of a vehicle from increasing.

Further, claim 12 recites, "the specific process being changed in sequence as the amount of time, during which the obtained road bank angle itself continues to be greater than the predetermined value, becomes long". This is new matter because applicant's specification does

not have support for the limitation. As already indicated above, steps 1125 of fig. 11 does not show any change or any sequence as claimed.

The rest of the claims are rejected for depending on a rejected base claim.

3. Claims 1-6, 9-15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Amended claim 1 recites, “based on **only** the determination that the obtained road bank angle itself is greater than the predetermined value”. The limitation is not enabled and is confusing. Applicant’s specification fails to adequately show support for the limitation. Applicant’s fig. 11 step 1125 show that Gy must be greater than Gyest and in addition that CANT must be greater than CANTref before starting a process for restraining a roll angle of a vehicle from increasing. CANT is understood to refer to applicant’s claimed “road bank angle”. Applicant’s specification nowhere recites onlythe obtained road bank angle. Applicant’s specification page 26 last section confirms that applicant requires at least two conditions to be satisfied before starting a process for restraining a roll angle of a vehicle from increasing.

Further, claim 12 recites, “the specific process being changed in sequence as the amount of time, during which the obtained road bank angle itself continues to be greater than the predetermined value, becomes long”. The limitation is not enabled and is confusing. Applicant’s specification does not have support for the limitation. As already indicated above, steps 1125 of fig. 11 does not show or suggest any change or any sequence as claimed.

The rest of the claims are rejected for depending on a rejected base claim.

Art Unit: 3664

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-6, 9-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Amended claim 1 recites, “determination means for determining”. The applicant has not properly invoked the 112 sixth paragraph because of the recitation of the structure or ACTS that determine “whether the obtained road bank angle itself is greater than a predetermined value”. The remark applies to the other means clauses in the claims. See MPEP 2181 (R-3).

Claim 1 further recites, “road surface obtaining means for obtaining”, “specific process executing means for comparing”, “motion state quantity obtaining means for obtaining motion state”, etc. The applicant has not properly invoked the 112 sixth paragraph because of the recitation of the structure or ACTS that perform the “obtaining” and comparing, etc. The remark applies to the other means clauses in the claims. See MPEP 2181 (R-3).

An example of properly invoking the 112 sixth paragraph is to write:

“determination means for determining” as --means for determining--;

“road surface obtaining means for obtaining a road bank angle of a road surface” as --means for obtaining a road bank angle of a road surface--;

“specific process executing means for comparing” as --means for comparing--, etc.

Applicant is encouraged to use this model or other appropriate methods to correct the rest of the claims.

Further, in claim 1, it is not clear what all is meant and encompassed by “becomes long”.

How long is long? The limitation is indefinite.

The rest of the claims are rejected for depending on a rejected base claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. As best understood, claims 1-6, 9-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Lu et al (7003389).

Regarding claim 1, Lu et al (figs. 1-6; abstract; col. 3, lines 40-67; col. 4, lines 34-67; col. 5, lines 29-67; col. 6, lines 1-27; col. 6-12) disclose a control device for a vehicle comprising:

road surface obtaining means 64 (col. 7, lines 57-60; fig. 5) for obtaining a road bank angle (fig. 3B; col. 5, line 46; col. col. 7, lines 65 to col. 8, line 8; col. 10, lines 64; col. 11, line 7) of a road surface, on which a vehicle runs in the vehicle body roll direction (figs. 3B; col. 5, lines 29-51; col. 7, lines 65 to col. 8, line 11);

means 26 (figs. 4A&B, the processor does multiple steps) for determining whether the obtained road bank angle itself is greater than a predetermined value or not (*i.e. road bank angle is greater than zero, col. 5, lines 46-51; col. 7, lines 65-col. 8, line 11; and*

specific process executing means 26 (figs. 4A&B, the processor does multiple steps) for starting a specific process for preventing a roll angle of the vehicle from increasing (*i.e. vehicle is prevented from rolling over, by applying brakes, controlling steering, suspension, etc; col. 5, lines 46-51; col. 6, lines 14-20; col. 7, line 65 to col. 8, line 10; col. 10, lines 20-24; col. 12, lines 51-62*) when the obtained road bank angle itself becomes greater than the predetermined value (*i.e. road bank angle is greater than zero, col. 5, lines 46-51; col. 7, lines 65-col. 8, line 11*).

The road bank, angle θ_{bank} in fig. 3B, col. 5, lines 46-51 is compared to the threshold zero. The bank angle has to be greater than zero to cause or increase a roll over of the vehicle (known as off-camber divergent state). In col. 7, lines 65 to col. 8, line 11, roll stability is executed during a divergent roll condition such (an off-camber divergent state, fig. 3B; col. 5, lines 46-51).

*In another scenario the road bank, angle θ_{bank} is illustrated in col. 10, lines 64, equation (5). Now, equation (5) is used in equation (14), col. 12, line 56. Based on equation 14 rolling over *i.e.* roll over angle of the vehicle is prevented thus preventing the vehicle from rolling over when the road bank, angle θ_{bank} is greater than zero (col. 5, line 45-51).*

Regarding claim 2, Lu et al (figs. 1-6; abstract; col. 3, lines 40-67; col. 4, lines 34-67; col. 5, lines 29-67; col. 6, lines 1-27) disclose the control device for a vehicle claimed in claim 1, wherein the road surface obtaining means is provided with:

motion state quantity obtaining means for obtaining motion state quantity showing a motion state of the vehicle (col. 6, lines 28-67);

estimated lateral acceleration calculating means for calculating, as an estimated lateral acceleration, an estimated value of a lateral acceleration that is a component of the acceleration exerted on the vehicle in the lateral direction of the vehicle body, based upon the obtained motion state quantity (col. 6, lines 28-67, fig. 4); and

a lateral acceleration sensor for obtaining the actual value of the lateral acceleration as an actual lateral acceleration by detecting the value of the component of external force exerted on the vehicle in the lateral direction of the vehicle body (col. 6, lines 37-67, fig. 4); wherein

the road surface obtaining means is configured to obtain the road bank angle based upon the result of the comparison between the calculated estimated lateral acceleration and the obtained actual lateral acceleration (col. 6, lines 28-67, fig. 4).

Regarding claim 3, Lu et al (figs. 1-6; abstract; col. 3, lines 40-67; col. 4, lines 34-67; col. 5, lines 29-67; col. 6, lines 1-27) disclose the control device for a vehicle claimed in claim 2, wherein the road surface obtaining means is configured to obtain the road bank angle based upon a difference between the calculated estimated lateral acceleration and the obtained actual lateral acceleration.

Regarding claim 4, Lu et al (figs. 1-6; abstract; col. 3, lines 40-67; col. 4, lines 34-67; col. 5, lines 29-67; col. 6, lines 1-27) disclose the control device for a vehicle claimed in claim 2,

wherein the specific process executing means is configured to start the specific process when the obtained road bank angle itself becomes greater than the predetermined value and when the value of the obtained actual lateral acceleration is greater than the value of the calculated estimated lateral acceleration.

Regarding claim 5, Lu et al (figs. 1-6; abstract; col. 3, lines 40-67; col. 4, lines 34-67; col. 5, lines 29-67; col. 6, lines 1-27) disclose the control device for a vehicle claimed in claim 2, wherein the motion state quantity obtaining means is configured so as to obtain the wheel speed of each wheel of the vehicle as the motion state quantity, and the estimated lateral acceleration calculating means is configured to calculate the estimated lateral acceleration based upon the difference between the wheel speed of the wheels at the left side of the vehicle body and the wheel speed of the wheels at the right side of the vehicle body.

Regarding claim 6, Lu et al (figs. 1-6; abstract; col. 3, lines 40-67; col. 4, lines 34-67; col. 5, lines 29-67; col. 6, lines 1-27) disclose the control device for a vehicle claimed in claim 5, wherein the estimated lateral acceleration calculating means is configured to calculate the estimated lateral acceleration based upon the difference between the average of the wheel speeds of the front-left and rear-left wheels and the average of the wheel speeds of the front-right and rear-right wheels.

Regarding claim 9, Lu et al (figs. 1-6; abstract; col. 3, lines 40-67; col. 4, lines 34-67; col. 5, lines 29-67; col. 6, lines 1-27) disclose the control device for a vehicle claimed in claim 1, wherein the specific process executing means is configured to start at least one of a process for producing an alarm and a process for decelerating the vehicle as the specific process.

Regarding claim 10, Lu et al (figs. 1-6; abstract; col. 3, lines 40-67; col. 4, lines 34-67; col. 5, lines 29-67; col. 6, lines 1-27) disclose the control device for a vehicle claimed in claim 2, wherein the specific process executing means is configured to start at least one of a process for producing an alarm and a process for decelerating the vehicle as the specific process.

Regarding claim 11, Lu et al (figs. 1-6; abstract; col. 3, lines 40-67; col. 4, lines 34-67; col. 5, lines 29-67; col. 6, lines 1-27) disclose the control device for a vehicle claimed in claim 10, wherein the process for decelerating the vehicle includes a process for producing braking force on the wheels of the vehicle by a brake fluid pressure regardless of an operation of a brake pedal.

Regarding claim 12, Lu et al (figs. 1-6; abstract; col. 3, lines 40-67; col. 4, lines 34-67; col. 5, lines 29-67; col. 6, lines 1-27) disclose the control device for a vehicle claimed in claim 10, wherein

at least one of a process for producing an alarm (i.e. flag, col. 9, lines 36-48) and a process for decelerating the vehicle (applying brakes, col. 6, lines 11-21; col. 12, lines 8-11, lines 59-62) as the specific process is executed depending upon an amount of time (col. 8, lines 58 to col. 9, line 5; col. 10, lines 1-24; col. 11, line 60, col. 12, lines 30) during the obtained road bank angle itself continues to be greater than the predetermined value, the specific process being changed in sequence as the amount of time, during which the obtained road bank angle itself continues to be greater than the predetermined value, becomes long (the equations in the prior art shown on in columns 10-12 vary with time and thus anticipate the limitation).

Regarding claim 13, Lu et al (figs. 1-6; abstract; col. 3, lines 40-67; col. 4, lines 34-67; col. 5, lines 29-67; col. 6, lines 1-27) disclose the control device for a vehicle as in claim 1,

Art Unit: 3664

wherein the specific process executing means is configured to start the specific process when the obtained road bank angle itself becomes greater than the predetermined value, and when a vehicle body speed is not less than a predetermined vehicle speed.

Regarding claim 14, Lu et al (figs. 1-6; abstract; col. 3, lines 40-67; col. 4, lines 34-67; col. 5, lines 29-67; col. 6, lines 1-27) disclose the control device for a vehicle as in claim 1, wherein the specific process executing means starts at least one of a plurality of specific processes for preventing the roll angle of the vehicle from being excessive depending upon an amount of time during which the obtained road bank angle continues to be greater than the predetermined value (col. 8, lines 58 to col. 9, line 5; col. 10, lines 1-24; col. 11, line 60, col. 12, lines 30).

Regarding claim 15, Lu et al (figs. 1-6; abstract; col. 3, lines 40-67; col. 4, lines 34-67; col. 5, lines 29-67; col. 6, lines 1-27) disclose the control device of claim 1, wherein the road surface obtaining means is configured to obtain the road bank angle when the vehicle is running substantially straight.

Response to Arguments

8. Applicant's arguments filed 4/22/08 have been fully considered but they are not persuasive.

9. Applicant argues that the claim properly invokes 112 sixth paragraph and demands that the examiner should show the structure in the claim. The examiner disagrees and notes that the claims do not properly invoke 112 sixth paragraph. Applicant has been advised how to correct the error. The claim language recites structures such as "road surface". The claim further recites

Art Unit: 3664

acts such as "determination", specific process executing", "motion", "estimated", etc. Examiner has provided examples of structures and acts requested by the applicant.

Applicant further argues that the prior art does not disclose "based on *only* the determination that the obtained road bank angle itself is greater than the predetermined value". The examiner disagrees and notes that this is new matter. Applicant does show where the new limitation is disclosed in the specification. Applicant's fig. 11 step 1125 show that Gy must be greater than Gyest and in addition that CANT must be greater than CANTref before starting a process for restraining a roll angle of a vehicle from increasing. CANT is understood to refer to applicant's claimed "road bank angle". Applicant's specification nowhere recites onlythe obtained road bank angle. Applicant's specification page 26 last section confirms that applicant requires at least two conditions to be satisfied before starting a process for restraining a roll angle of a vehicle from increasing.

The claims are interpreted to require at least two conditions not ONLY one as insisted by the applicant.

Applicant further argues that the prior art does not disclose obtain road bank angle, "comparing the *road bank angle itself* with a predetermined value". And further that the prior art does not disclose that, "when *the road bank angle itself* is greater than a predetermined value, the system starts a specific process for preventing a roll angle of the vehicle from becoming excessive.

The examiner respectfully disagrees. Applicant is referred to col. 7, lines 57 to col. 8, lines 11. Lu discloses a module for obtaining road bank angle.

The road bank, angle θ_{bank} in fig. 3B, col. 5, lines 46-51 is compared to the threshold zero. The bank angle has to be greater than zero to cause or increase a roll over of the vehicle (known as off-camber divergent state). In col. 7, lines 65 to col. 8, line 11, roll stability is executed during a divergent roll condition such (an off-camber divergent state, fig. 3B; col. 5, lines 46-51).

In another scenario the road bank, angle θ_{bank} is illustrated in col. 10, lines 64, equation (5). Now, equation (5) is used in equation (14), col. 12, line 56. Based on equation 14 rolling over i.e. roll over angle of the vehicle is prevented thus preventing the vehicle from rolling over when the road bank, angle θ_{bank} is greater than zero (col. 5, line 45-51).

These sections anticipate comparing road bank angle with a threshold and states that if the road bank angle is greater than the threshold, zero a process for stopping the vehicle from rolling over (i.e. roll angle of vehicle is restrained as claimed) vehicle is started

It is further noted that the examiner has provided an example how applicant may write the claim to meet the specification of 112 sixth paragraph.

It is believed that the rejections are proper and thus stand.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Communication

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to RONNIE MANCHO whose telephone number is (571)272-6984. The examiner can normally be reached on Mon-Thurs: 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tran Khoi can be reached on 571-272-6919. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/813,264
Art Unit: 3664

Page 14

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Examiner
Art Unit 3664

8/3/2008
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3664 Supervisory Patent Examiner